



# Connecting Redmond

## Downtown Bicycle Network Concept



Contents

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NETWORK CONCEPT AND ASSUMPTIONS

The following map (Figure 1) depicts a bicycle network concept for downtown Redmond that is integrated with the overall design concept developed for “Connecting Redmond”. The proposed bicycle network is comprised of different facility types. To be consistent with the City of Redmond’s Comprehensive Plan, these are designated as follows:

- Class I (Pathway) – A bicycle facility physically separated from motorized traffic by an open space or barrier. It is either within road right-of-way or within an independent right-of-way.
- Class II (Bicycle Lane) – A portion of the roadway which has been designated by striping, signing and pavement markings for the preferential use of cyclists.
- Class III (Bicycle Route) – A roadway shared by bicycles and motor vehicles with a wide shared curb lane or paved shoulder and signage.

“Green Streets” - In addition, potential “Green Streets” are shown. “Green Streets” are lower traffic volume streets where the design emphasizes the pedestrian environment.

Figure 1 – Bicycle Network Concept



The purpose of this evaluation is to identify a potential bicycle network for the downtown area that would provide a high level of bicycle access and connectivity. The process employed is essentially a map-based analysis, which considers network connectivity, existing automobile volumes, available street width or

right-of-way, and priority of need for bicycle facilities as compared to other uses of the right of way including parking, pedestrian facilities, and travel lanes. The analysis does not consider bicycle demand or existing geometric features.

Route selection was driven by the objective of providing good bicycle accessibility throughout the downtown area, as well as direct connectivity between primary bicycle facilities. The core of the recommended network is provided by two Class I (Pathway) trails; the existing north-south Lake Sammamish Trail, and a new east-west trail along the BNSF right-of-way through downtown. Class II (Bicycle Lanes) and Class III (Bicycle Route) on-street facilities provide the necessary accessibility and connectivity to activities and external destinations.

The Recommendation of Class II (Bicycle Lanes) or Class III (Bicycle Route) for specific on-street routes is based primarily on two factors;

- Class II (Bicycle Lanes) facilities are recommended for moderate volume streets where greater comfort and separation from vehicle traffic is desirable;
- Class III (Bicycle Route) facilities are recommended for lower volume streets or where other competing right of way uses (such as sidewalks or parking) may have higher priorities.

A preference for Class II (Bicycle Lanes) over Class III (Bicycle Route) where possible is assumed based on rider comfort, perception of safety, and comprehensive plan direction.

The following two sections outline some of the considerations used to determine specific bicycle facility characteristics on a street-by-street basis.

Notes:

*Issues not resolved in this analysis are bicycle connections outside the downtown study area, including to Redmond Way, Avondale Road, and SR 202.*

*Street classification or designations referred to relate to the concept developed for “Connecting Redmond” and not the existing street classification.*

NORTH/SOUTH FACILITIES

Designated Bicycle Facilities

**160<sup>th</sup> Avenue – NE 90<sup>th</sup> Street to Redmond Way.** Class II (Bicycle Lane). 160th Avenue replaces 161st Avenue as a primary north-south bicycle route in the downtown. 160th Avenue is designated as a collector street and currently has somewhat higher daily traffic volumes than 161st Avenue. However, shifting to 160th Avenue does provides for a more evenly spaced network of bicycle lanes, and removes the redundancy 161<sup>st</sup> provides for 164th Avenue. With bicycle lanes proposed on 164th Avenue, there is less need for bicycle lanes on 161<sup>st</sup> as an alternate to 164<sup>th</sup>. Additionally, establishing bicycle facilities on 160<sup>th</sup> Avenue (rather than 161<sup>st</sup>) allows development of a pedestrian-emphasis corridor on 161<sup>st</sup>. Access to the BNSF Trail is provided on the southern end via Cleveland Street.

**164<sup>th</sup> Avenue – NE 90<sup>th</sup> Street to Redmond Way.** Class II (Bicycle lanes). As an important north-south connection in the downtown with moderately high traffic volumes, 164<sup>th</sup> is a candidate for on-street bicycle lanes. To accommodate bicycle lanes, a conversion from the existing four-lane section to three-lane section would be required.

**164<sup>th</sup> Avenue – Redmond Way to Bear Creek Parkway.** Class III (Bicycle Route). Bicycles share the travel lane with auto traffic. Competing priorities (sidewalks and parking) limit the ability to develop bicycle lanes on this portion of the corridor. Under the design concept the street configuration of 164<sup>th</sup> changes, as does the nature of the traffic. In this section the continuous left turn lane is dropped, and a two-lane configuration exists with lower volumes of traffic.

**166<sup>th</sup> Avenue – NE 85<sup>th</sup> Street to Redmond Way.** Class III (Bicycle Route). Bicycles share the travel lane with auto traffic. This corridor provides an important connection between downtown and Education Hill. Although traffic volumes are moderately high on this section of 166<sup>th</sup>, sidewalk improvements are considered a priority (this street is designated as a major pedestrian connection and is in close proximity to a school and community center). Sidewalk improvements will preclude bicycle lanes. Instead, a wider than normal (12-14 feet) travel lane can be provided for vehicles and bicycles to share.

Increased sidewalk widths and wide curb lane will require conversion to a three-lane section. A climbing lane may be appropriate north of NE 85<sup>th</sup> Street.

**166<sup>th</sup> Avenue – Redmond Way to Bear Creek Parkway.** Class III (Bicycle Route). Bicycles share the travel lane with auto traffic. Priority is given to the pedestrian environment and parking (both as a buffer for pedestrians and in support of businesses in the heart of downtown), so bicycle lanes are precluded due to space limitations. Traffic characteristics will be appropriate for on-street Class III Bicycle Route designation.

**Leary Way – West Lake Sammamish Parkway to BNSF.** Class II (Bicycle lanes). Leary Way is a major entry point to the downtown with high volume automobile traffic and is therefore a candidate for on-street bike lanes. A transition from on-street bike lanes on Leary Way to a BNSF trail is assumed. Users will either transition to shared lanes in the downtown core or will use the BNSF trail to access other north/south bicycle facilities.

Not Recommended for Designation as Bicycle Facility

**158<sup>th</sup> Avenue – NE 85<sup>th</sup> to Redmond Way (vicinity).** Green Street (Pedestrian Emphasis). Bicycles would share the travel lane with auto traffic. 158<sup>th</sup> Avenue is a local access street with low traffic volumes and no through connections, so is appropriate as a Class III facility.

**161<sup>st</sup> Avenue – NE 90<sup>th</sup> Street to Redmond Way.** Green Street (Pedestrian Emphasis). Bicycles share the travel lane with auto traffic. 161<sup>st</sup> Avenue is designated as a local access street. Priority is given to the pedestrian environment in the creation of a “green street” that connects residential areas with the park and the BNSF. Wide sidewalks and landscaped areas are provided. Parking is provided on both sides as a buffer for the pedestrian and to slow traffic. Existing bicycle lanes are shifted to 160th Avenue.

**Leary Way – BNSF to Redmond Way.** This area forms part of the downtown core and emphasizes the pedestrian environment. A transition from on-street bike lanes on Leary Way to a BNSF trail is assumed. Users will either transition to shared lanes in the downtown core or will use the BNSF trail to access other north/south bicycle facilities.

**164<sup>th</sup> Avenue – BNSF to Bear Creek Parkway.** Bicycles share the travel lane with automobile traffic. This area experiences comparatively low traffic volumes and speeds and is a destination with little need for facilities that accommodate through traffic

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EAST/WEST FACILITIES

Designated Bicycle Facilities

**BNSF Trail.** Class I (Pathway). The proposed BNSF trail provides a critical, major east/west connection through the downtown, and provides for exceptional access to Old Town and Redmond Town Center. It is assumed that the design of the BNSF facility would accommodate both recreational and commuter bicycle traffic, and that well-designed access points will be provided at street intersections. The BNSF Trail would be the central east-west focus for the downtown bicycle network.

**Redmond Way – Bear Creek Parkway Extension to 170th Avenue.** Class III (Bicycle Route). Bicycles share the travel lane with auto traffic, and wide curb lanes (12-14 feet) are provided. Redmond Way is a collector street with moderately high traffic volumes and significant turning movements. Due to the attractiveness of the BNSF as an alternate route to Redmond Way, it is presumed that most bicycle traffic will use BNSF Trail. However, since Redmond Way serves as access to commercial uses, and because it is a logical through route with strong connections to points east and west of the downtown, some provision for bicycles is recommended. Limited right-of-way precludes bicycle lanes, so designation as a Class III (Bicycle Route) is suggested.

**NE 80<sup>th</sup> Street.** Class III (Bicycle Route). Bicycles share the travel lane with auto traffic. NE 80<sup>th</sup> Street is a collector street with moderate traffic volumes. Due to the presence of a school, priority is given to pedestrian improvements, with wide sidewalks and parking providing a buffer. Space limitations therefore limit bicycle improvements on the corridor to designation as a bicycle route.

**NE 85<sup>th</sup> - Sammamish River to 166<sup>th</sup> Avenue.** Class II (Bicycle lanes). NE 85<sup>th</sup> Street is a moderate volume collector street that provides an important east/west connection across the Sammamish River. Because of the higher automobile volumes expected on the corridor, provision of Class II Bicycle Lanes is recommended, rather than simple designation as a Class III Bicycle Route.

**NE 90<sup>th</sup> Street - Sammamish River to 164<sup>th</sup> Avenue.** Class II (Bicycle lanes). NE 90<sup>th</sup> Street is a higher volume collector street that provides an important east/west connection across the Sammamish River.

Because of the higher automobile volumes expected on the corridor, provision of Class II Bicycle Lanes are recommended, rather than simple designation as a Class III Bicycle Route.

Not Recommended for Designation as Bicycle Facility

**Bear Creek Parkway.** No Official Route Designation. Bicycles may share the travel lane with auto traffic, and wide curb lanes are provided. Bear Creek Parkway is an arterial street with very high traffic volumes forecast under the concept plan. It would provide out of direction travel for most cyclists, who could instead more directly use the proposed BNSF trail to access adjacent uses. Given this, Bear Creek Pkwy is not recommended for bicycle route designation.

**NE 76<sup>th</sup> Street – Bear Creek Parkway to Leary Way.** No Official Route Designation. Bicycles may share the travel lane with auto traffic. Due to NE 76<sup>th</sup> street’s immediate proximity to the proposed BNSF trail and relatively short length, the BNSF trail will better serve bicycle access needs for this section of the downtown.

**NE 83<sup>rd</sup> Street – 158<sup>th</sup> Avenue to 166<sup>th</sup> Avenue.** Green Street (Pedestrian Emphasis). Bicycles share the travel lane with auto traffic. NE 83<sup>rd</sup> is a local access street with relatively low traffic volumes. As a designated pedestrian connection, priority is given to sidewalk improvements. The street is potentially a green street with access to the central park and greenbelt.

**NE 86<sup>th</sup> Street – 161<sup>st</sup> Avenue to 164<sup>th</sup> Avenue.** No Official Route Designation. Bicycles share the travel lane with auto traffic. NE 86<sup>th</sup> Street is a local access street with low traffic volumes and no through connection. As such, it is well suited for shared use by automobiles and bicycles. However, it is not recommended for designation as a bicycle facility because it does not provide a through connection.